

Date: Thursday, 5/10/2007 2:35:57 PM  
 User: Kim Johnston,

## Process Sheet

Customer	CU-DAR001 Dart Helicopters Services	Drawing Name	CROSSTUBE EXTRUSION (412 AFT)
Job Number	32306		
Estimate Number	10030		
P.O. Number	N/A	Part Number	D6009129
This Issue	5/10/2007	S.O. No.	N/A
Prsh Rev.	NC	Drawing Number	D6009 REV A
First Issue	N/A	Project Number	N/A
Previous Run	29111	Drawing Revision	A
Written By		Material	N/A
Checked & Approved By	<u>5/10/07.05.10</u>	Due Date	10/30/2007
Comment	Est Rev.A 01.08.17 New Issue SM	Qty:	24
Um:	Each		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	PG	PURCHASING

Comment: PURCHASING

Issue P/O: 3761c/o 7/10/20

(24)

- a) Order as per Dwg D6009
- b) Material: 3.500 x 0.625 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube
- c) Minimum ultimate tensile strength = 77 ksi
- d) Minimum tensile yield strength = 66 ksi
- e) Tolerance are per ASTM B210 (see details on Dwg D6009)
- f) Material certification required

2.0	D6009129P	Crosstube Material

Comment: Qty.: 1.0000 Each(s)/Unit Total : 24.0000 Each(s)

Crosstube Material

3.0	PACKAGING 1	PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material certification is attached

7/12/10 scd

(26x)

4.0	QC6	DIMENSIONAL CHECK

Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D

JF 07/12/11

(26)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes  No  DQA:  Date: 07/12/12  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 5/10/2007 2:35:57 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CROSSTUBE EXTRUSION (412 AFT)

Job Number: 32306

Part Number: D6009129

Job Number:



Seq. #:	Machine Or Operation:	Description :
5.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
	Comment: HAND FINISHING RESOURCE #1 Chemical Conversion Coat as per QSI 005.4.1	N/A
6.0	PACKAGING 1	PACKAGING RESOURCE #1
	Comment: PACKAGING RESOURCE #1 Identify and Stock Location: <u>CNC</u>	
7.0	QC21	FINAL INSPECTION/W/O RELEASE
		 26 Dont/21/12
	Comment: FINAL INSPECTION/W/O RELEASE	

Job Completion



U 07.12.12

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

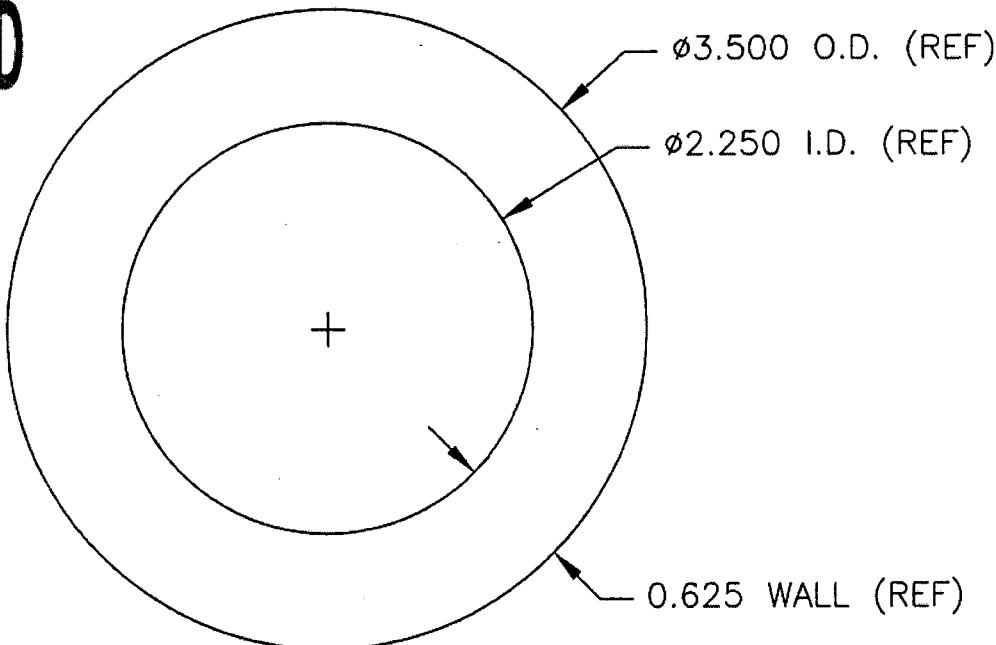
NOTE: Date & initial all entries

DRAFT  
03/18/01

DESIGN	DRAWN BY	DART AEROSPACE LTD	
	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. A
	ff	D6009	SHEET 1 OF 1
DATE		TITLE	SCALE
01.08.16		CROSSTUBE MATERIAL	1:1
A	01.08.16	NEW ISSUE	

## SPECIFICATION CONTROL DRAWING

RELEASED  
01.08.17 ff



### NOTES

1) D6009-XXX CROSSTUBE

LENGTH

WHERE XXX IS LENGTH IN INCHES  
EG. 129" LONG TUBE: D6009-129

2) MATERIAL: 3.500 OD x 0.625 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.

MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi  
MINIMUM YIELD TENSILE STRENGTH = 66 ksi

3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:

O.D.:  $\pm 0.008$  MEAN ( $\pm 0.016$  INCLUDING OVALITY)

WALL:  $\pm 0.020$  MEAN ( $\pm 0.063$  INCLUDING ECCENTRICITY)

LENGTH: XXX  $+0.188/-0.000$

STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH

4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 32306

Packinglist ALUnna AG

<b>Customer PO</b>	Po. 00003761
<b>ALUnna ref. no.</b>	25006/5
<b>Date:</b>	11.12.07

**We hereby declare that the wooden packing material are totally free from bark and apparently**

**free from live plant pests**

## **Boxmarking:**

Dart Aerospace PO. 00003761 D 6009-129  
Made in Germany  
Dest. Hawkesbury Ont. Canada

**We hereby declare that the wooden packing material are totally free from bark and apparently**

**free from live plant pests**



ALUnna

# Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

<b>Kunde:</b>	Dart Aerospace Ltd.	<b>Zeugnisnummer:</b>	1255/07											
<i>Client:</i>	1270 Aberdeen Street K6A1K7 Hawkesbury, ON Canada	<i>Cert No.: / No. du certificat:</i>	P000003761											
<b>Produkt:</b>	Rohre nahtlos gepresst <i>Tubes seamless extruded</i>	<b>Bestellnummer:</b>	Order No. / No. de commande											
<b>Spezifikation:</b>	AMS - QQ - A - 200/11E; Spezifikation Dart Aerospace D6009	<b>Auftrag:</b>	25006/5											
<i>Specification:</i>		<i>Our Reference/Notre Reference:</i>												
<b>Werkstoff:</b> <i>Alloy/Alliage:</i>	7075	<b>Zustand:</b> <i>Temper/Etat</i>	T 6511											
<b>Abmessung</b> <i>Size / Dimension</i>	3,500 INCH x 2,250 INCH x 0,625 INCH x 129,000 INCH D6009-129 3.500 X 0.625 X 129													
<b>Kennzeichnung</b> <i>Marking/Marquage:</i>	ALUnna - Cert No. 1255/07 - 7075 - T 6511 - Cast No. 01706078 - AMS - QQA 200/11 - 3.500" OD X 0.625" Wall - Heat No. 951 - Lot 25006/5-1 PO. 00003761													
<b>Lieferung</b> <i>Delivered Material / Matériel délivré:</i>	26	lbs	<b>Country of Manufacture:</b> Germany											
	26	lbs	<b>Country of Manufacture:</b> Germany											
<b>1. Chemische Analyse</b> <i>Chemical Analysis / analyse chimique</i>														
Charge/ Cast No.	min. max.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
				1,2		2,1	0,18	5,1						
01706078		0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
Hydrogen content:<0,15 ccm/100 g Al Elements without indication < 0,01 %				country of melt manufacturer: Germany										

## 2. Mechanische Eigenschaften      Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
	min. max.	77,0	66,0			
1	84,100	77,720	10,0			951 - 26 pcs.
2	84,825	78,590	11,0			
3	84,970	79,170	11,0			

RMS: outside 25 - max. 15,6  $\mu$ "

**Ergebnis der Prüfungen:** Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

*Test results:* We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

*Resultats:* Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

azbqs\_netz



Certified acc. to DIN EN ISO 9001:2000, valid until 2009-03-27  
Certificate No.: 001959 QM

12.11.2007

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany

Abnahmebeauftragter